

## ABSTRACT

Disclosed is a method of controlling a separation process for removing permanganate reducing compounds from a process stream in the methanol carbonylation process for making acetic acid, where the method includes the steps of measuring the density of a stream containing acetaldehyde and methyl iodide, optionally calculating the relative concentrations of acetaldehyde and methyl iodide in the stream, and adjusting distillation or extraction process parameters based on the measured density or one or more relative concentrations calculated therefrom.